

# Science Tools Update, August 24, 2006

## Science Tools Working Group

We met this week and most probably will meet again in 2 weeks, after the collaboration meeting. This report covers the last 2 weeks.

The current version of the Science Tools is **v7r4p1**. It has a number of (incremental) [changes from v7r4](#). Among these are a switch from the `timeSystem` classes to the `timeCorrect` classes for handling systems of time for the pulsar tools (Masa and James) and generalization of `irfInterface` to allow for time-dependence in the IRFs (Chiang).

**Data products:** No news. Masa pointed out that until recently the pulsar tools assumed that the reference time (the origin of MET) was MJD 51910 in the TT system. The actual reference time is MJD 51910 UTC, which amounts to a difference of about 64 seconds. This matters for pulsar timing; we can shift our origin of time all we want but we cannot change where the earth is at any given absolute time. The DC2 pulsar simulations worked because `PulsarSpectrum` must also have been assuming the same reference time. *No need to panic, but I'd stick with v7r3 if you want to analyze DC2 pulsar data.*

## Databases and related utilities

No news. Tom pointed out that the GRT 5 test being run today, which includes sending an FT1 file to the GSSC, will include ingesting the file into the data server at the GSSC. The server runs probably as many validity checks on incoming files as reasonably possible.

## Likelihood analysis

Jim reports that for the columns that **gtdiffresp** adds to FT1 files the delimiter between IRF name and diffuse source name is now "\_\_\_" instead of "::.". The change is backward compatible; the new naming scheme is consistent with HEASARC "recommendations" for naming columns in FITS binary tables.

At the request from a user, Jim added a hidden parameter (`write_output_files`) to the parameter file for **gtlikelihood**. Setting it to no disables writing output files including the new `counts_spectra.fits`. He also fixed a bug in the generation of `counts_spectra.fits`.

## GRB tools

No news.

## Pulsar tools

Masa reports that the pulsar tools now interpret the **MJDREFI/F** keywords. In their absence, the tools look for **MJDREF**, and failing that will look to see whether **TELESCOP** = GLAST. If that doesn't work, I guess the tools will complain and quit.

## Observation simulation

No news, but we had some discussion of a tool that would be something like an extended version of **ModelEditor** that to the extent possible would translate between `obsSim` and likelihood-type XML model files. Such a tool would be useful; the translation aspect would not necessarily have to run in a GUI. The larger question seems to be about how to get it implemented via **st\_graph**, which the GSSC is committed to support for distribution of the Science Tools to guest investigators.

## User interface and infrastructure

No news. David reports that **Cicerone** still has some gaps, e.g., in pulsar tools and observation simulation. This is supposed to be in shape by early November for the GLAST Users Committee.

## Source Catalog

The catalog group met this week and Jean presented results on understanding the reasons some DC2 sources were detectable but were not uncovered in the DC2 catalog analysis. I tallied the source lists that have come in for the comparison among source detection algorithms.